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| <b>Notice of Allowability</b> | <b>Application No.</b><br>09/965,234 | <b>Applicant(s)</b><br>RINALDI ET AL. |  |
|                               | <b>Examiner</b><br>James M. Mitchell | <b>Art Unit</b><br>2827               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/24/2004.
2. ☒ The allowed claim(s) is/are 21,23-25,28 and 31.
3. ☒ The drawings filed on 25 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>9/5/03</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|---|---|

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's Appeal Brief filed March 11, 2004 contained some arguments that were found to be persuasive and others that were not. Applicant was contacted to discuss allowability and rejected claims. The discussion resulted in the agreed changes reflected below to place the application in condition for allowance. The finality of that last office action is withdrawn, prosecution is reopened and the following amendments and allowance are entered.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul Steiner on June 24, 2004.

The application has been amended to overcome prior art as follows:

#### **CLAIMS**

Cancel claims 22, 26, 27, 29 and 30.

In claim 21, line 7 after "die" insert - - wherein the plurality of light emitting diode die comprise a stack of at least two die arranged in a line with a reinforcing pin integrally formed on the outside of the integrated circuit substrate, and wherein one of said

plurality of electrical contacts comprises a cathode contact and wherein another of said plurality of electrical contacts comprises an anode contact, and wherein the reinforcing pin comprises a nonelectrode reinforcing pin positioned between the cathode contact and the anode contact.- -

In claim 23, Line 1 delete "22" and insert - - 21- -.

In claim 25, Line 8 delete "from a single wafer" and insert - - cut from a same integrated circuit wafer, and wherein the plurality of light emitting diode die comprise a stack of at least two die arranged in a line with the line adapted to form a right angle with respect to the circuit board when the package is mounted to the circuit board. - -.

***Allowable Subject Matter***

Claims 21, 23, 24, 25, 28 and 31 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art does not disclose or make obvious a plurality of light emitting diodes, LED, stacked in a line with a nonelectrode reinforcing pin formed on an integrated circuit substrate positioned between anode and cathode contacts of the LEDS including all the limitations of the independent claim. Furthermore, the prior art does not disclose or make obvious stacked LEDs in the same package cut from the same integrated wafer in the same package formed in a line that is adapted to form a right angle with respect to a

circuit board when the package is mounted to the board including all the limitations of the independent claim.

While the prior art discloses in Ishinaga an encapsulant material between anodes and cathodes, it is distinguishable from applicant's invention in that applicant's pin as disclosed by cross hatch in figure 6 is a separate and distinct structure in the package. Lastly, newly found art Natori is distinguishable from applicant's invention in that its external contacts (8a) are positioned through its substrate and at its bottom for contact not on the outside of the IC substrate, such that the contacts are on an outermost surface of the substrate as disclosed in applicant's figure 6, therefore a line formed by dies are adapted to be parallel with a board when the package is mounted to the board through its external contacts.

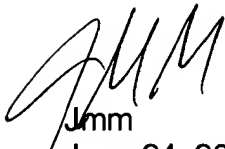
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jmm  
June 24, 2004

  
KAMAND BUNEO  
SUPERVISORY PATENT EXAMINER  
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